



Appendix D ECONOMIC BENEFIT STUDY

Appendix D

ECONOMIC BENEFIT

STUDY

Laughlin/Bullhead International Airport

EXECUTIVE SUMMARY

This report presents the results of a study of the economic benefits of Laughlin/Bullhead International Airport on the airport service area during 1999.

The airport service area includes the southern portion of Clark County, Nevada, the western section of Mohave County Arizona, and the eastern part of San Bernardino County, California.

The Laughlin/Bullhead International Airport is located in the northern area of Bullhead City, Arizona. The airport is on the east side of the Colorado River and the gaming resort center of Laughlin, Nevada, is on the west side of the river. There are 11 casinos with 10 on Casino Drive directly across from the airport.

Commercial air service includes daily flights from Phoenix as well as charter flights from various destinations that serve gaming and resort activity in Laughlin. The airport provides general aviation services for both recreational and business flyers. There were 60 based aircraft at the airport at the beginning of 1999.

The objective of this study was to analyze economic activity related to Laughlin/Bullhead International Airport and quantify the economic benefits associated with the presence of the airport.

MEASURING ECONOMIC BENEFITS

Airports bring benefits to the regional economy in many ways. As a transportation center, an airport facilitates commerce through the movements of air travelers and cargo, usually with shorter time to destination than other modes of transport.

Airports bring essential services to a community, including enhanced medical care (such as air ambulance service), support for law enforcement and fire control, and courier delivery of mail and high value parcels. These services raise the quality of life for residents and maintain a competitive environment for economic development.

Although qualitative advantages created by the presence of an airport are significant and widely acknowledged, they are also difficult to measure. In studying airport benefits, regional analysts have emphasized indicators of economic activity for airports that can be quantified, such as dollar value of

production of output, number of jobs created, and earnings of workers.

The Laughlin/Bullhead International Airport is a source of economic output (the production of aviation services) which creates employment and earnings for workers on the airport. In addition, visitors who arrive by air at the airport create demand for goods and services off the airport, such as casino gaming, lodging and retailing. Air visitors generally have greater expenditures as compared to visitors using other modes of travel. This spending produces revenues for firms in the hospitality sector as well as employment and earnings for workers.

Output in dollars can be evaluated from either side of the producer/consumer transaction. From the perspective of the supplier of goods and services, the dollar value of output is equal to the revenues received by that producer. From the viewpoint of the consumer, the dollar value of the goods and services of output is equal to the amount that the consumer spent to purchase that output.

In addition to the private businesses there are also administrative agencies that make expenditures in the economy as they produce services for the community. In any given year, expenditures for agencies are determined by the agency budget. Usual practice is to define the budgets of agencies as an indicator of the dollar value of their production or output.

The sales of on-airport firms and the budgets of on-airport administrative agencies were utilized to measure the value of output on the airport for 1999. The value of output produced off-airport by suppliers of goods and services to air visitors was measured by spending as reported on visitor surveys. These indicators were combined and labeled as **Revenues** in this study.

Employment is a measure of the number of jobs supported by the revenues created by the presence of Laughlin/Bullhead International Airport. Employment in private firms and administrative agencies was tallied to determine the number of jobs due to the presence of the airport.

Earnings represent the dollar value of payments received by workers (as wages) and business proprietors (as income) who create the goods and services that are sold to produce revenues.

DATA COLLECTION

Information on revenues, employment and earnings was collected directly from suppliers and users of aviation services to measure economic activity created by the presence of the airport. Sources of information included interviews and surveys of based aircraft owners, on-airport employers, the Mohave County Airport Authority, and general aviation travelers who used the airport during the 1999 period. Survey forms are shown in an appendix to this report.

Airport Benefit Surveys

- Airport Tenants/Employers
 - Based Aircraft Owners
 - Air Visitors
-

Airlines, businesses in the terminal, airport tenants, and others doing business on the airport received a survey form designed for airport employers. Items requested included annual average employees, payroll, operating expenditures, and revenues.

Based aircraft owners were surveyed using records of aircraft ownership. The based aircraft survey asked for information on value of aircraft, costs of operation, and travel patterns including purpose and length of trips.

General Aviation Visitor Surveys were mailed to owners of aircraft that had visited the area during the past year. The Mohave County Airport Authority and operations staff maintain excellent records on visiting aircraft and were able to provide addresses of several hundred registered aircraft owners.

Expenditures made by commercial and charter airline passengers were based on figures compiled for 1999 by the Las Vegas Convention and Visitors Authority through the cooperation of the Laughlin Nevada Chamber of Commerce.

SOURCES OF ECONOMIC BENEFITS

Economic benefits (output, employment and earnings) are created when economic activity takes place both on and off the airport. The three sources of economic benefits are (1) on-airport benefits, (2) air visitor benefits and (3) indirect (or multiplier) benefits. The economic benefits of Laughlin/Bullhead International Airport by source and location are shown in Table 1.

On-Airport Benefits

There were fourteen employers located on Laughlin/Bullhead International Airport in 1999, including FBO services, flight training, food services, auto rental, the air traffic control tower, administrative offices, and retail activities.

Including the revenues and employment created by outlays for airport capital projects, these economic units reported on-airport benefits of:

- **\$10.8 Million Revenues**
- **\$2.3 Million Earnings**
- **106 On-Airport Jobs**

Air Visitor Benefits

An additional source of aviation-related spending comes from visitors to the area

that arrive at Laughlin/Bullhead International Airport. When air travelers make off-airport expenditures these outlays create revenues (sales) for firms that supply goods and services to visitors.

During 1999 there were 17,175 transient (visiting) general aviation aircraft and 42,938 general aviation air travelers that arrived at Laughlin/Bullhead International Airport.

There were 36,977 visitors arriving by commercial air carriers (scheduled or charter service), yielding a total number of air visitors of 79,915 during the year.

Visitors traveling for business or personal reasons spent for casino gaming, lodging, food and drink, entertainment, retail goods and services, and ground transportation including auto rental and taxis, creating airport service area revenues, employment and earnings of:

- **\$35.3 Million Revenues**

- **\$9.1 Million Earnings**

- **541 Off-Airport Jobs**

Direct Benefits

The direct benefits represent the sum of on-airport and off-airport (visitor) revenues, earnings and employment due to the presence of the airport and its aviation activity.

Direct benefits are the "first round" impacts and do not include any multiplier effects of secondary spending. The direct benefits of on-airport and off-airport economic activity related to Laughlin/Bullhead International Airport in 1999 were:

- **\$46.1 Million Revenues**

- **\$11.4 Million Earnings**

- **647 Jobs**

The airport created benefits to workers by providing income and earnings within the region in 1999 of \$11,399,868 representing the payment for the labor component of the economic activity due to the presence of the airport.

There were 647 jobs created directly by suppliers and users of aviation services. More than four out of every five jobs directly associated with the presence of the airport (541) were in sectors such as lodging and retail which serve air visitors.

Indirect Benefits (Multiplier Effects)

Indirect benefits are created when the initial spending by airport employers or visitors circulates and recycles through the economy. These indirect benefits are often referred to as "multiplier effects."

In contrast to initial or direct benefits, the indirect benefits measure the

magnitude of successive rounds of respending as dollars are spent by those who work for or sell products to airport employers or the hospitality sector.

For example, when an aircraft mechanic's wages are spent to purchase food, housing, clothing, and medical services, these dollars create more jobs and income in the general economy of the region through multiplier effects of respending.

Multiplier impacts were computed using coefficients produced by the Nevada Cooperative Extension and University Center for Economic Development, University of Nevada at Reno (see *Defining the Economic Interaction Between Laughlin, Nevada and Bullhead City, Arizona*, January, 1999).

The multipliers used were based on a multi-regional input-output model for Laughlin, Bullhead City, and Mohave County. The model estimates the impacts on each of the three areas resulting from activity originating in any one of the three. The model includes a casino sector (particularly important for estimating the output, employment, and earnings associated with visitor spending) and also accounts for labor flows (effects from workers

living, earning and spending in different areas of the region).

The initial direct revenue stream in the service area of \$46.1 million created by the presence of Laughlin/Bullhead International Airport stimulated indirect revenues in the airport service area of \$26.8 million. Indirect benefits from multiplier effects within the airport service area were computed as

- **\$26.8 Million Revenues**
- **\$4.0 Million Earnings**
- **167 Jobs**

Total Benefits

The total benefits of the airport are the sum of the direct benefits and the indirect benefits which result as dollars recirculate in the regional economy. The total benefits of Laughlin/Bullhead International Airport in 1999 were calculated to be:

- **\$72.8 Million Revenues**
- **\$15.4 Million Earnings**
- **814 Total Employment**

TABLE 1
Summary of Economic Benefits: 1999
Laughlin/Bullhead International Airport

	BENEFIT MEASURES		
	Revenues	Earnings	Employment
On-Airport Benefits Airlines Airport Businesses FBO Services Tower Airport Authority Capital Projects	\$10,790,370	\$2,310,661	106
Air Visitor Benefits Lodging Casino Gaming Food/Drink Retail Goods/Services Entertainment	35,275,254	9,089,207	541
Direct Benefits: Sum of On Airport & Air Visitor Benefits	46,065,624	11,399,868	647
Indirect Benefits	26,766,136	3,955,637	167
TOTAL BENEFITS	\$72,831,760	\$15,355,505	814

ON-AIRPORT BENEFITS

This section provides more detail on the economic benefits associated with activity on site at Laughlin/Bullhead International Airport.

Table 2 illustrates the data on revenues, employment and earnings obtained from mail surveys and interviews conducted with airport tenants during 1999. Values shown for revenues (sales), employment and earnings do not include multiplier effects of indirect benefits.

Copies of the surveys used to compile these figures are included in this report as an appendix. To encourage employers to release confidential figures on employment, earnings and revenues, those responding to the surveys were told that the figures would be used only as aggregate totals for each category. Therefore, details on employment by individual respondents are not presented in Table 2.

Revenues From On-Airport Activity

On-airport activity created revenues of \$9.1 million in 1999. There were 14 employers on the airport during the 1999 study period. One of these, a convenience store, was a non-aviation business but is on airport property and is under the management of the Mohave County Airport Authority.

Airline personnel handle ticket sales, supervise passenger boarding and deplanement, and provide cargo services. FBO activities include maintenance, and line services for based aircraft and transient travelers as well as flight training, aircraft sales and rental, aircraft charter and pilot supplies.

Other activity at the airport includes rental cars, in-terminal businesses, air traffic control services through the tower, air rescue and fire fighting, and overall administration from the Mohave County Airport Authority.

Capital Projects

Capital projects are vital for airports to maintain safety and provide for growth. Capital spending for airport improvements also creates jobs and injects dollars into the local economy. Because capital improvement spending varies from year to year, a five year average was used to measure capital spending. During the most recent five year period, an annual average of \$1.6 million was invested in capital improvements at Laughlin/Bullhead International Airport. Projects ranged from outlays for maintenance on grounds, buildings, and hangars to apron pavement and construction of the new tower.

Employment and Earnings

Surveys and interviews with on-airport employers provided a tally of 97 jobs on

the airport. These employees on the airport brought home annual earnings of \$2.0 million. With the addition of an annual average of 9 construction workers, the average employment on the airport was 106 workers in 1999 and earnings of \$2.3 million.

Summary of On-Airport Benefits

On-airport activity at Laughlin/Bullhead International Airport created \$10.8 million in revenue flows. These revenues supported employment of 106 workers on the airport, with earnings of \$2.3 million.

TABLE 2

**On-Airport Benefits: Revenues, Earnings and Employment
Laughlin /Bullhead International Airport**

	BENEFIT MEASURES		
	Revenues	Earnings	Employment
Sources of On-Airport Benefits Airlines Air Courier FBO Services Automobile Rental Businesses in Terminal Fuel and Line Services Aircraft Charter & Rental Pilot Training & Supplies Air Traffic Control Tower Air Rescue and Fire Fighting Mohave County Airport Authority	\$9,143,494	\$2,084,700	97
Capital Projects	1,646,876	225,961	9
ON-AIRPORT BENEFITS	\$10,790,370	\$2,310,661	106
Source: Survey of airport employers, 1999			

AIR VISITOR BENEFITS

Laughlin/Bullhead International Airport attracts visitors from throughout the Western region and the nation who come to the area for recreational, business and personal travel. This section provides detail on economic benefits from air travelers who used the airport in 1999. Values shown for spending (revenues), employment and earnings do not include multiplier effects of indirect benefits.

Airline Visitors

Airline visitors come to the Laughlin/Bullhead City area on regularly scheduled airlines and charter flights from various points in the nation.

In 1999, there were 42,996 airline enplanements at Laughlin/Bullhead International Airport. According to an analysis of the air traveler origin and destination data bank of the U. S. Department of Transportation, 86 percent were visitors to the area. Economic benefit calculations for airline visitors were based on these 36,977 persons using Laughlin/Bullhead International Airport and do not include travelers who may have arrived on airlines at other airports such as Las Vegas.

Profiles for visitors to the Laughlin area have been compiled by the Las Vegas Convention and Visitors Authority (see 1999

Laughlin Visitor Profile Study, Las Vegas Convention and Visitors Authority).

The average travel party visiting the Laughlin/Bullhead City area was 2.3 persons. The average stay reported by all visitors was 3.3 days, or 2.3 nights. Only four percent of travel parties reported they were traveling with children.

These 36,977 airline visitors contributed to 122,090 visitor days (Table 3). On an average day, there were 335 airline visitors staying in the Laughlin/Bullhead City area, and 96 percent of these participated in some gambling activity. Time spent in gambling exceeded five hours per day.

TABLE 3
Airline Visitor Travel Patterns
Laughlin /Bullhead International
Airport

Enplanements	42,996
Percent Visitors	86%
Number of Visitors	36,997
Average Days Stay	3.3
Visitor Days	122,090

Source: Based on 1999 Laughlin Visitor Profile Study, Las Vegas Convention and Visitors Authority, and U. S. Department of Transportation Origin and Destination data.

Expenditures per person per trip averaged \$564 for each airline visitor in 1999, including an average gaming budget per person of \$385. Gaming budgets accounted for 68 percent of total trip expenditures, making up the largest proportion of travel budgets (Table 4).

The second largest single category of spending for airline travelers was lodging, at \$70 per trip. This figure includes those visitors who stayed with friends or relatives and therefore had no direct outlays for lodging. Lodging accounted for 12 percent of visitor outlays during the average stay.

Expenditures for food and drink in restaurants and other establishments accounted for 11 percent of outlays for the typical airline traveler, averaging \$62 per person for the stay of 3.3 days. Outlays for retail spending and entertainment, including golf, movies, shows, and other attractions averaged \$35 per trip, with retail expenditures accounting for most of this. Airline visitors reported transportation outlays averaging \$12 per trip in 1999, predominantly for taxis or rental autos.

The economic benefits from airline visitors as measured by revenues, earnings and employment are shown in Table 5. Total expenditures by airline travelers in the Laughlin-Bullhead City area were estimated as \$20.4 million in 1999.

Expenditures on lodging by airline passengers summed to \$2.6 million in 1999. Outlays for food and drink were almost as large, at \$2.3 million. Retail spending was \$1.1 million and entertainment added an addition \$147,000. All these categories were dwarfed by airline gaming, at \$14.2 million.

TABLE 4
Airline Visitor Spending
Per Person Per Trip
Laughlin /Bullhead International
Airport

Category	Spending	Percent
Lodging	\$70	12
Food/Drink	62	11
Retail	31	6
Entertainment	4	1
Transportation	12	2
Gaming Budget	385	68
TOTAL	\$564	100

Source: Based on *1999 Laughlin Visitor Profile Study*, Las Vegas Convention and Visitors Authority

(Note: To make allowances for the presence of auto rental agencies and taxi pick-ups on the airport, revenues, earnings and employment from ground transportation spending were included in the on-airport tables. Airline visitors spent \$444,000 on ground transportation in 1999, supporting 15 jobs with earnings of \$300,000.)

Earnings and employment associated with expenditures by airline visitors were computed using the input-output model developed by the Nevada Cooperative Extension and University Center for Economic Development, University of Nevada at Reno (*Defining the Economic Interaction Between Laughlin, Nevada and*

Bullhead City, Arizona, January, 1999). Therefore, estimates for employment and earnings created by each category of spending should be consistent with and comparable to that existing study.

Spending by airline visitors arriving at Laughlin/Bullhead International Airport created 312 direct jobs in the Laughlin - Bullhead City area in 1999 (before including indirect multiplier effects of respending). The greatest employment effect was in the casino or gaming sector, where airline visitors were responsible for 210 jobs.

Next in importance was the food service sector, with 45 jobs. Airline visitors supported employment for 36 workers in lodging places, and contributed to an additional 19 jobs in retailing.

Earnings from jobs created by airline visitor spending exceeded \$5.0 million in 1999. Some two thirds of earnings (\$3.6 million) were in the gaming sector. Earnings to workers in the lodging and food services sectors exceeded one half million dollars.

TABLE 5
Economic Benefits from Airline Visitors - Revenues, Earnings and Employment
Laughlin/Bullhead International Airport

Category	Revenues	Earnings	Employment
Lodging	\$2,588,390	\$724,750	36
Food/Drink	2,292,574	596,069	45
Retail Sales	1,146,287	355,349	19
Entertainment	147,908	38,456	2
Gaming	14,236,145	3,559,036	210
TOTAL	\$20,411,304	\$5,273,660	312

Note: Visitor spending based on *1999 Laughlin Visitor Profile Study*, Las Vegas Convention and Visitors Authority; Earnings and employment figures were derived from the input-output model developed by the Nevada Cooperative Extension and University Center for Economic Development, University of Nevada at Reno (*Defining the Economic Interaction Between Laughlin, Nevada and Bullhead City, Arizona, January, 1999*). Employment is not necessarily full time equivalents; includes full and some part time workers, figures rounded to head counts. Expenditures by visitors on ground transportation were allocated to "on-airport" category to reflect location of auto rental agencies and origination of taxi services at the airport terminal building.

General Aviation Visitors

There were a total of 17,175 transient general aviation aircraft arrivals at Laughlin/Bullhead International in 1999. A questionnaire was administered to general aviation travelers to gather information on origin of flight, purpose of travel, length of stay, destination, and expenditures by category of spending for visitors.

Nearly two out of three general aviation visitors to the Laughlin/Bullhead City area originated their flights in California (Table 6). Over one half (52%) were from Southern California with a much smaller proportion (11%) from Northern California. The next most frequent origination was Arizona (19%).

TABLE 6
Origin of General Aviation
Visitors
Laughlin /Bullhead
International Airport

Origin	Percent
Southern California	52
Arizona	19
Northern California	11
New Mexico	5
All Other	13
TOTAL	100

Some visitors stopped only briefly at the airport, some stayed for most of a day, and some stayed overnight. Overnight visitors represented 37percent and day visitors made up 63 percent of the transient GA aircraft arriving at the airport (Table 7).

TABLE 7
General Aviation Aircraft
Laughlin /Bullhead
International Airport

Item	Annual Value
Transient AC Arrivals	17,175
Percent Overnight AC	37%
Overnight Transient AC	6,300
Percent One Day AC	63%
One Day Transient AC	10,875

Source: GA visitor survey, 1999

Separate analyses were conducted for those travelers who reported an overnight stay and those whose visit was one day or less in duration.

Overnight GA Visitors

The travel patterns underlying the calculation of overnight GA visitor

economic benefits are shown in Table 8. There were 6,300 overnight aircraft at Laughlin/Bullhead International Airport during 1999, and the average party size was 2.5 persons, including the aircraft pilot. The average stay for overnight visitors was 3.0 nights. Average spending per aircraft was reported as \$1,358 including all outlays for all travelers on their overnight trip to the area.

The leading reason for travel stated on the survey forms completed by general aviation overnight visitors was "tourism" (74%). Next in importance was "personal visit" (14%), followed by "business" (8%). An additional 4% of travelers reported they stayed overnight to rest and buy fuel.

TABLE 8
General Aviation Overnight Visitors
Laughlin /Bullhead International
Airport

Item	Annual Value
Transient AC Arrivals	17,175
Overnight Transient AC	6,300
Avg. Party Size	2.5
Average Stay (days)	3.0
Spending per Aircraft	\$1,358
Source: GA visitor survey, 1999	

With an average travel party of 2.5 persons, the 6,300 arriving overnight general aviation aircraft carried a total of 15,575 visitors to Laughlin Bullhead International Airport in 1999.

Detail on spending per overnight aircraft is shown in Table 9. As with airline passengers, the largest category for outlays is casino gaming, with a gambling budget of \$893 per aircraft. Lodging accounted for 13 percent of each visitor dollar and averaged \$184 per aircraft per trip. Food and drink per aircraft was \$120 for the 3 day stay in the area.

The retail, entertainment and transportation categories tended to have wide variations in reported spending by survey respondents. Retail ranged from zero to more than \$1,000 for some travel parties. Others reported spending more than \$500 on entertainment, while some spent nothing.

Slightly more than one half of travel parties (52%) reported no outlays for ground transportation during their stay. The average ground transport spending (auto rental and taxi) per aircraft was \$24.

TABLE 9
Spending Per Overnight Aircraft
Laughlin /Bullhead International
Airport

Category	Spending	Percent
Lodging	\$184	13
Food/Drink	120	9
Retail	79	6
Entertainment	58	4
Transportation	24	2
Gaming Budget	893	66
TOTAL	\$1,358	100

Note: Expenditures per aircraft are for all survey respondents, including those who had no outlays for some of the categories shown.

Source: GA visitor survey, 1999

Day Visitors

According to tie down records maintained by the Mohave County Airport Authority, three out of five transient general aviation visitors to Laughlin/Bullhead International Airport stayed in the service area for one day or less. In 1999, there were 10,875 aircraft that stopped at the airport for one day while the travel party had their aircraft serviced, visited a casino, pursued a personal activity or

conducted business. The average travel party size was 2.5 persons (Table 10). The number of visitor days created by one day aircraft was 27,188.

The most frequently mentioned purpose for the one day visit was "tourism" (55 %) followed by "fuel stop" (35%). "Business" travel was cited by 8% of respondents and 2% were traveling for "personal" reasons.

TABLE 10
General Aviation Day Visitors
Laughlin /Bullhead International
Airport

Item	Annual Value
One Day Transient AC	10,875
Avg. Party Size	2.5
Average Stay (Days)	1
Number of GA Visitors	27,188
Spending per Aircraft	\$597
Total Expenditures	\$6,492,375

Source: GA visitor survey, 1999

These visitors spent an amount reported as \$597 per travel party per day, or an outlay for 2.5persons per aircraft of \$238 per person on their trip.

TABLE 11 Spending Per Day Visitor Aircraft Laughlin /Bullhead International Airport		
Category	Spending	Percent
Lodging	0	
Food/Drink	76	13
Retail	13	2
Entertainment	64	11
Transportation	3	1
Gaming Budget	441	73
TOTAL	\$597	100
Source: GA visitor survey, 1999		

The largest expenditure category for one day visiting travel parties was their gambling budget, which averaged \$441 per aircraft for the day and accounted for nearly three fourths of outlays made (Table 11). Spending for food and drink was the second largest category, at \$76 per aircraft or approximately \$30 per person.

Entertainment spending was actually larger for one day aircraft than reported for the average overnight travel party. The one day aircraft average for entertainment was \$64, while travel parties staying overnight spent \$58 during their trip. One explanation for this differential could be that overnight visitors received certain entertainment benefits or packages as part of their lodging arrangements while one day visitors had to pay separately.

Combined GA Visitor Spending Benefits

Table 12 shows the economic benefits resulting from spending in the region by combined overnight and day general aviation visitors arriving at Laughlin/Bullhead International Airport.

There were 17,175 transient general aviation aircraft that brought visitors to the airport in 1999. Of these, 6,300 were arriving overnight general aviation aircraft and 10,875 were one day visiting aircraft. Each overnight travel party spent a reported average of \$1,358 during their trip to the Laughlin/Bullhead International Airport service area and travelers on each day visitor aircraft spent an estimated \$597 per trip.

Multiplying the expenditures for each category of spending by the number of aircraft yields the total outlays for lodging, food and drink, entertainment, retail spending and gaming due to GA visitors during the year.

General aviation visitor spending on goods and services during 1999 summed to \$14,863,950 in revenues for service area firms in the lodging, food service, retail, entertainment and casino gaming sectors. (Note: since auto rental agencies are located in the terminal, outlays on ground transportation were included in the On Airport spending totals.)

There were 74,438 visitor days attributable to general aviation

travelers during the year. Sixty-three percent of visitor days were due to

overnight GA travelers and thirty-seven percent were one day visitors.

TABLE 12

Economic Benefits from General Aviation Visitors - Revenues, Earnings and Employment Laughlin/Bullhead International Airport

Category	Spending per AC		Revenues	Earnings	Employment
	Overnight	Day			
Lodging	\$184		\$ 1,159,200	\$324,576	16
Food/Drink	120	\$76	1,582,500	411,450	31
Retail Sales	79	13	639,075	198,113	10
Entertainment	58	64	1,061,400	275,964	17
Ground Transport	24	3	Included in On-Airport Benefits		
Gaming Budget	893	441	10,421,775	2,605,444	154
TOTAL	\$1,358	\$597	\$ 14,863,950	\$3,815,547	229

Source: GA spending from GA Visitor Survey, 1999; Earnings and employment figures were derived from the input-output model developed by the Nevada Cooperative Extension and University Center for Economic Development, University of Nevada at Reno(*Defining the Economic Interaction Between Laughlin, Nevada and Bullhead City, Arizona*, January, 1999). Employment is not necessarily full time equivalents; includes full and some part time workers, figures rounded to head counts. Expenditures by visitors on ground transportation were allocated to "on-airport" category to reflect location of auto rental agencies and origination of taxi services at the airport terminal building.

On an average day, there were 204 visitors in the service area that had arrived via GA aircraft at the airport. Average daily spending by GA air travelers was \$47,723 within the average airport service area. The average economic impact of any arriving general aviation aircraft (combined overnight and day visitors) was \$865.

The largest spending category by general aviation visitors was gaming activity with gaming budgets of \$10.4 million for the year. Gaming accounted for seventy percent of expenditures by general aviation travelers in the service area.

Spending for food and drink was the next largest spending category (\$1.6

million), followed by lodging and entertainment. The smallest spending component was in the retail sector.

Of the spending of \$14.9 million created by GA visitors, an average of 26 cents of each dollar was used within the service area by employers as earnings paid out to workers. Earnings for employees in the local hospitality and gaming industry supported by general aviation travelers were \$3.8 million.

Expenditures by GA visitors created 229 jobs in the tourist sector in the Laughlin Bullhead International Airport service area. The largest employment category was in the gaming and casino sector with 154 jobs. Earnings for these workers were \$2.6 million in 1999.

Combined Airline and GA Visitors

Table 13 presents the economic benefits derived from airline and general

aviation visitors combined. Air travelers in the two categories together contributed to an overall combined figure of 196,461 visitors days and total spending of \$35.3 million during 1999.

The revenue flow in the Laughlin/Bullhead International Airport service area from air visitors directly created 541 jobs. Of this total, 364 or two-thirds, were in the casino gaming industry. An additional 76 jobs were in eating and drinking places, and 52 were in the lodging sector. Earnings to workers serving air visitors in 1999 were \$9.1 million.

Comparing on-airport revenue flows of \$10.8 million with the off-airport revenues of \$35.3 million, the off-airport economic benefits are calculated as slightly more than three times greater. Employment created is approximately five times greater off-airport.

TABLE 13

Economic Benefits from Airline and GA Visitors - Revenues, Earnings and Employment
Laughlin/Bullhead International Airport

Category	Revenues	Earnings	Employment
Lodging	\$ 3,747,590	\$ 1,049,325	52
Food/Drink	3,875,074	1,007,519	76
Retail Sales	1,785,362	553,463	29
Entertainment	1,209,308	314,420	20
Gaming Budget	24,657,920	6,164,480	364
TOTAL	\$ 35,275,254	\$ 9,089,207	541

Note: Airline visitor spending based on *1999 Laughlin Visitor Profile Study*, Las Vegas Convention and Visitors Authority; GA spending from GA Visitor Survey, 1999; Earnings and employment figures were derived from the input-output model developed by the Nevada Cooperative Extension and University Center for Economic Development, University of Nevada at Reno(*Defining the Economic Interaction Between Laughlin, Nevada and Bullhead City, Arizona*, January, 1999). Employment is not necessarily full time equivalents; includes full and some part time workers, figures rounded to head counts. Expenditures by visitors on ground transportation were allocated to "on-airport" category to reflect location of auto rental agencies and origination of taxi services at the airport terminal building.

**INDIRECT BENEFITS:
MULTIPLIER EFFECTS**

The output, employment, and earnings from on-airport activity and visitor spending represent the direct benefits

from the presence of Laughlin/Bullhead International Airport. For the service area, these benefits summed to \$46.1 million of output (measured as revenues to firms and budgets of administrative units), 647 jobs, and earnings to workers and proprietors of \$11.4 million. These figures for initial economic activity created by the

presence of the airport do not include the "multiplier effects" that result from additional spending induced in the economy to produce the initial goods and services.

Production of outputs requires inputs in the form of supplies and labor. Purchase of inputs creates additional or indirect revenues, employment and earnings due to the presence of the airport that should be included in total benefits of the airport.

Airport benefit studies rely on multiplier factors from input-output models to estimate the impact of successive rounds of spending on output, earnings and employment to determine indirect and total benefits resulting from initial on-airport and visitor benefits, as illustrated in the figure below.

Multipliers for this study were obtained through the cooperation of the University of Nevada and are based on

the input-output model developed by the Nevada Cooperative Extension and University Center for Economic Development, University of Nevada at Reno (*Defining the Economic Interaction Between Laughlin, Nevada and Bullhead City, Arizona*, January, 1999).

To demonstrate the methodological approach, average multipliers for revenues (output), earnings and employment are shown in Table 14. The average multipliers represent weighted multipliers for each industry in each category and are presented for illustrative purposes.

To compute the actual indirect and total benefits from visitor spending, individual multipliers were used for casino gaming, lodging, food and drink, retail and entertainment revenues, earnings, and employment. To compute on airport indirect and total benefits, separate multipliers were used for transportation, construction, auto rental and retail sales.

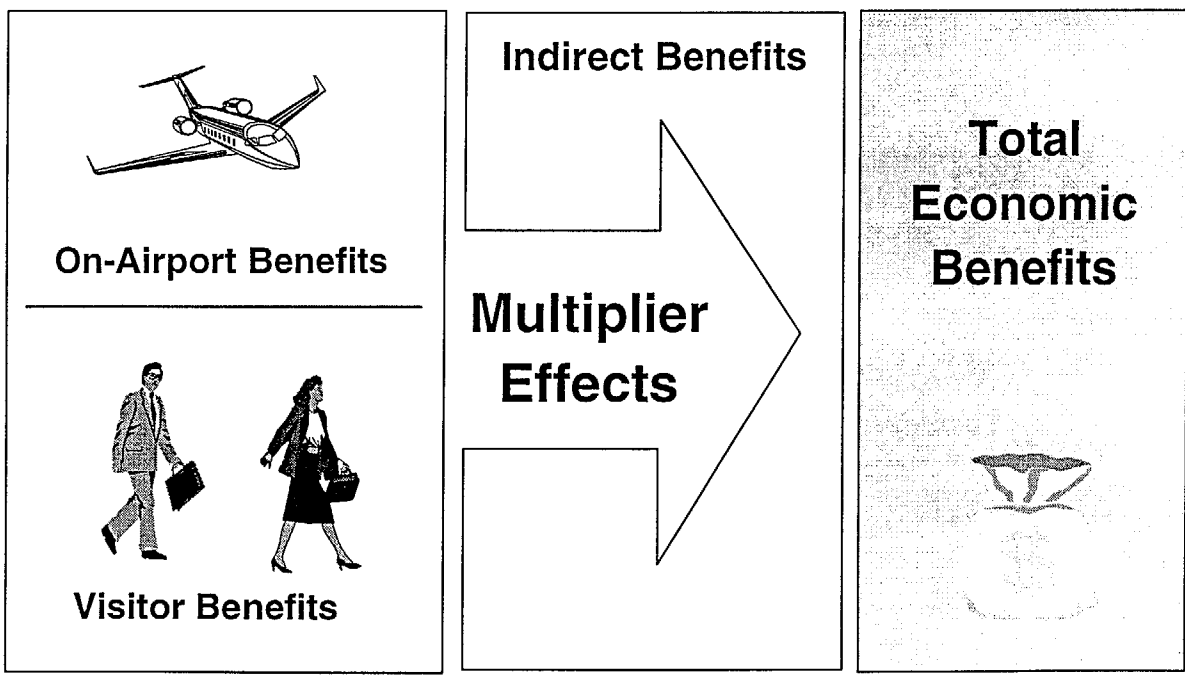
The multipliers in this table provide for calculating the indirect and total impacts on all industries of the regional economy resulting from the direct impact of each aviation related industry.

The multipliers for revenues show the average dollar change in revenues for all firms in the service area due to a one dollar increase in revenues either on the airport or through visitor spending. Each dollar of new output (revenue) created by airport operations circulates through the economy until it has stimulated total output in all industries in the service area of \$1.5296. Each dollar of visitor spending creates total output of \$1.5968.

Multipliers are constructed to allow for "leakage" of spending outside the regional economy. For example, when consumers buy vegetables produced in California or automobiles produced in Michigan, dollars flow to those states. Larger metropolitan areas tend to have larger multipliers because areas that are more self sufficient rely less on importing of goods and services from other localities. Dollars spent in a larger economy tend to stay within the economy longer, recirculating to create a greater multiplier impact.

The revenue multiplier of 1.5296 for on airport activity shows that for each dollar spent on the airport there is additional spending created of \$0.5296

Laughlin/Bullhead International Airport Economic Benefits and Multiplier Effects



or approximately 53 cents of indirect or multiplier spending.

Direct revenues due to spending associated with the presence of Laughlin/Bullhead international airport were \$46.1 million in 1999. After accounting for the multiplier effect, total revenues created within the service area were \$72.8 million. Indirect or secondary revenues were \$26.7 million, the difference between total and direct revenues.

The multiplier for earnings shows the dollar change in earnings for the service area economy due to a one dollar increase in earnings either on the airport or in the visitor sector.

The earnings multipliers determine how wages paid to workers on or off the airport stay within the economy and create additional spending and earnings for workers in non-aviation industries. For example, each dollar of wages paid for workers on the airport stimulates an additional 47.54 cents of earnings in the total economy.

The total earnings benefit of the airport was \$15.4 million in 1999, consisting of \$11.4 million of direct benefits and \$4.0 million of indirect benefits. The economic interpretation is that the presence of the airport provided employment and earnings for workers, who then respend these dollars in the

service area. The initial wages of \$11.4 million were spent for consumer goods and services that in turn created additional earnings of \$4.0 million.

The multiplier for employment shows the total change in jobs for the service area economy due to an increase of one job on or off the airport.

To illustrate, there were 106 jobs on the airport during 1999. These workers produced output in the form of aviation services. The purchases of supplies, materials and various services to support airport economic activity created additional jobs in the service area due to the presence of the airport. Moreover, when airport workers spent their earnings in the local community, this demand for goods and services also created jobs.

The overall result is that the 106 direct jobs on the airport created and supported an additional 44 jobs in the service area as indirect employment. The sum of the direct and indirect jobs created is the total employment benefit of 150 jobs. Applying the multiplier from the table:

$$106 \times 1.4151 = 150$$

The total employment benefit for on airport and off airport economic activity is 814 jobs with 647 direct jobs and indirect employment of 167.

TABLE 14**Indirect Benefits and Average Multipliers Within the Airport Service Area
Laughlin/Bullhead International Airport**

Revenue Source	Direct Revenues	Average Multipliers	Indirect Revenues	Total Revenues
On-Airport Benefits	\$10,790,370	1.5296	\$5,714,948	\$16,505,319
Visitor Benefits	35,275,254	1.5968	21,039,188	56,326,441
Revenues	46,065,624		26,766,136	72,831,760
Earnings Source	Direct Earnings	Average Multipliers	Indirect Earnings	Total Earnings
On-Airport Benefits	\$ 2,310,661	1.4754	\$1,098,540	\$ 3,409,204
Visitor Benefits	9,089,207	1.3102	2,819,347	11,908,554
Earnings	11,399,868		3,955,637	15,355,505
Employment Source	Direct Employment	Average Multipliers	Indirect Employment	Total Employment
On-Airport Benefits	106	1.4151	44	150
Visitor Benefits	541	1.2274	123	664
Employment	647		167	814

Notes: Some columns may not compute exactly due to rounding. Average multipliers for On-Airport Benefits include auto rental, transportation, retail and construction categories; wholesale cost of aviation fuel was not included in multiplier calculations; average multipliers for Visitor Benefits include casino gaming, lodging, food and drink, retail, and entertainment. Multipliers obtained from the input-output model developed by the Nevada Cooperative Extension and University Center for Economic Development, University of Nevada at Reno(*Defining the Economic Interaction Between Laughlin, Nevada and Bullhead City, Arizona*, January, 1999).

BASED AIRCRAFT BENEFITS

A survey of owners of aircraft based at Laughlin/Bullhead International Airport was conducted to compile information on number and value of aircraft, annual expenditures and usage patterns, purpose of travel, average party size, and average distance flown per trip.

The average market value for the 60 aircraft based at Laughlin/Bullhead International Airport was \$75,966. The total value of all aircraft based at the airport was \$4.6 million (Table 15).

A significant portion of the revenue created on the airport can be attributed to outlays by the owners of the general aviation based aircraft for storage, maintenance, and operation of their aircraft throughout the year.

Owners reported expenditures averaging \$11,017 per year on repairs, maintenance and operations. Using these values, the total spending created in the region due to outlays by aircraft owners can be estimated as \$661,018 in 1999. (Note that annual expenses for individual aircraft can vary greatly, depending on the size, technical specifications, and hours flown.)

The combined distance logged on based general aviation aircraft for personal and business travel summed to 1.2 million miles in 1999. The passenger

miles, after accounting for party size, totaled 3.0 million miles.

TABLE 15
Based Aircraft Profile
Laughlin/Bullhead International Airport

Item	Value
Number of Aircraft	60
Total Market Value	\$4,557,931
Average Value	\$75,966
Total Annual Outlays	\$661,018
Average Annual Outlays	\$11,017

Source: Based aircraft owner survey, 1999

An approximation of the dollar value of travel on based aircraft may be made by comparison with financial reports of scheduled air carriers, who report typical revenues per passenger mile in the range of 10 cents. Applying this value to passenger miles traveled on aircraft based at the airport, the "airline equivalent" value of general aviation travel is \$300,000.

This figure is an estimate, which does not include a measure of the economics gains such as those from business trips, which may have been substantial. Personal trips, such as those for medical

reasons, often have high economic value as well.

It is important for citizens and policy makers to be aware that these unmeasured but qualitative elements represent significant social and economic benefits created by airports for the regions which they serve.

For example, convenient air transportation allows freedom for individuals to travel to satisfy their preferences for goods, services, and personal needs. Airports make the regional economy more competitive by providing businesses ready access to markets, materials and international commerce.

General aviation introduces options of schedule flexibility, which also create value.

Laughlin/Bullhead International Airport based general aviation aircraft owners reported an average of 42 non-training trips per year, which is an average of 3.5 non-training trips per month, or approximately one every 8.5 days (Table 16).

Overall, 57 percent of trips (24 per year) were for personal purposes and 43 percent of general aviation trips (18 trips per year) were for business travel. However, 56 percent of aircraft owners reported some business use for their aircraft and among those who reported business use, the average was 32 trips for business purposes per year.

TABLE 16
Based Aircraft - Use Patterns
Laughlin/Bullhead International
Airport

Type	Annual Trips
Avg. Number of Trips	42
Avg. Personal Trips	24
Avg. Business Trips	18
Percent Personal Trips	57%
Percent Business Trips	43%
Source: Based aircraft owner survey, 1999	

The typical round trip for pleasure, recreation or other personal reasons was 535 miles, with 2.6 persons in the travel party (Table 17). There were an estimated 1,440 trips for personal reasons during the year.

Aircraft at Laughlin/Bullhead International Airport flew 771,203 miles for personal reasons in 1999. With an average travel party of 2.6 persons, total non-business passenger miles flown during the year summed to 2.0 million.

The typical business use for a general aviation aircraft was 387 miles round trip with 2.4 persons in the travel party (Table 18). There were an estimated 1,080 general aviation business trips originating from Laughlin/Bullhead International Airport during the year by based aircraft.

TABLE 17

**Based Aircraft - Personal Use
Laughlin/Bullhead International
Airport**

Item	Annual Value
Avg. Personal Trips	24
Total Personal Trips	1,440
Avg. Party Size	2.6
Avg. Round Trip Miles	535
AC Personal Miles	771,203
Passenger Personal Miles	2,023,031
Source: Based aircraft owner survey, 1999	

Based aircraft flew 424,015 business miles in 1999. Passenger miles flown on business trips originating at Laughlin/Bullhead International Airport summed to 1.0 million.

TABLE 18

**Based Aircraft - Business Use
Laughlin/Bullhead International
Airport**

Item	Annual Value
Avg. Business Trips	18
Total Business Trips	1,080
Avg. Party Size	2.4
Avg. Round Trip Miles	387
AC Business Miles	424,015
Passenger Business Miles	1,022,624
Source: Based aircraft owner survey, 1999	

SUMMARY AND FUTURE IMPACTS

Airports are available to serve the flying public and support the regional economy every day of the year. On a typical day at Laughlin/Bullhead International Airport, there are more than 130 operations by aircraft in use for passenger and cargo transport, business, recreation, and training flights.

During each day of the year in 1999, Laughlin/Bullhead International Airport generated \$200,000 of revenues within its service area (see box). Revenues and production support jobs, not only for the suppliers and users of aviation services, but throughout the economy.

Each day Laughlin/Bullhead International Airport provides 106 jobs directly on the airport and in total supports 814 local jobs in the airport service area. These workers brought home daily earnings of \$42,000 for spending in the communities of Laughlin and Bullhead City in 1999.

On an average day during the year, there are 538 visitors in the area who arrived at Laughlin/Bullhead International Airport. The average expenditures for these visitors on a typical day are \$96,000.

Table 19 shows a summary of economic benefits associated with the airport in 1999. Direct benefits to the service area, without including multiplier effects, include revenues of \$46.1 million, 647 jobs and earnings to workers and proprietors of \$11.4 million.

Laughlin/Bullhead International Airport Daily Economic Benefits

- **\$200,000 Revenues**
- **814 Local Jobs Supported**
- **\$42,000 Income Earned**
- **\$96,000 Visitor Spending**
- **538 Air Visitors**

Including indirect or multiplier effects, total benefits to the service area are \$72.8 million in revenues, 814 jobs and earnings of \$15.4 million.

As aviation activity increases in the airport service area, the economic benefits of the airport to the regional economy may be expected to increase.

The short term planning horizon for the airport is associated with an increase in enplanements to an annual level of 125,000 and 77,700 total operations. Assuming commerce on the airport and in the community increases at the same pace, employment on the airport will rise to 135 workers and jobs related to

air visitors will increase to 1,284 (Table 20).

Visitor spending will exceed \$100 million (measured in 2000 dollars) and the revenue benefits due to the presence of the airport will increase to \$183.9 million, with multiplier effects.

The intermediate term planning horizon is based on enplanements of 200,000 with total operations of 97,000 (Table 21). Direct employment from aviation activity will rise to 2,600 and the employment impact after all multiplier effects is 3,502 total jobs. Revenues will rise to \$276.3 million in the intermediate term.

The long term is defined as 350,000 enplanements, 104,000 general aviation operations, and 127,800 total operations per year. The long term projections imply on-airport employment of 222 workers with earnings approaching \$5 million. Spending by air visitors will exceed \$250 million, with employment of more than 4,000 workers.

Accounting for all multiplier effects, jobs supported in the airport service area under the long term assumptions total 5,422. Revenues will be \$455 million, measured in 2000 dollars (see table 22 and the accompanying bar graph).

TABLE 19
Summary of Economic Benefits: 1999
Laughlin/Bullhead International Airport

	Revenues	Earnings	Employment
On-Airport Activity	\$10,790,370	\$2,310,661	106
Airline Visitors	20,411,304	5,273,660	312
GA Visitors	14,863,950	3,815,547	229
<i>Direct Benefits</i>	<i>46,065,624</i>	<i>11,399,868</i>	<i>647</i>
Indirect Benefits	26,766,136	3,955,637	167
Total Benefits	\$72,831,760	\$15,355,505	814

Note: Revenues, earnings and employment for 1999 reflect activity and spending associated with 30,387 enplanements, 48,617 general aviation operations, and 55,686 total operations.

TABLE 20
Summary of Economic Benefits: Short Term
Laughlin/Bullhead International Airport

	Revenues	Earnings	Employment
On-Airport Activity	\$ 12,758,135	\$ 2,908,831	135
Airline Visitors	83,963,965	21,693,733	1,284
GA Visitors	19,567,081	5,022,832	301
<i>Direct Benefits</i>	<i>116,289,181</i>	<i>29,625,396</i>	<i>1,720</i>
Indirect Benefits	67,569,084	10,279,709	445
Total Benefits	\$183,858,265	\$ 39,905,105	2,165

Note: Revenues, earnings and employment for short term forecast period reflect activity and spending associated with 125,000 enplanements, 64,000 general aviation operations and 77,700 total operations.

TABLE 21
Summary of Economic Benefits: Intermediate Term
Laughlin/Bullhead International Airport

	Revenues	Earnings	Employment
On-Airport Activity	15,927,144	\$ 3,631,360	169
Airline Visitors	134,342,344	34,709,972	2,055
GA Visitors	24,458,851	6,278,540	376
<i>Direct Benefits</i>	<i>174,728,339</i>	<i>44,619,872</i>	<i>2,600</i>
Indirect Benefits	101,524,782	15,482,639	902
Total Benefits	\$276,253,121	\$ 60,102,511	3,502

Note: Revenues, earnings and employment for intermediate term forecast period reflect activity and spending associated with 200,000 enplanements, 80,000 general aviation operations and 97,000 total operations.

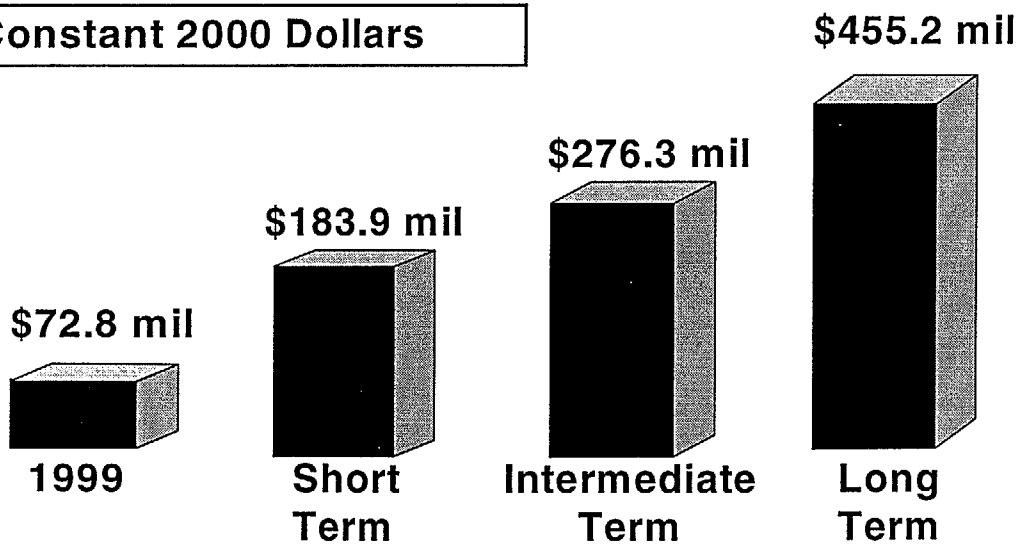
TABLE 22
Summary of Economic Benefits: Long Term
Laughlin/Bullhead International Airport

	Revenues	Earnings	Employment
On-Airport Activity	\$20,984,422	\$4,784,410	222
Airline Visitors	235,099,102	60,742,453	3,596
GA Visitors	31,796,507	8,162,101	489
<i>Direct Benefits</i>	<i>287,880,031</i>	<i>73,688,964</i>	<i>4,307</i>
Indirect Benefits	167,270,848	25,569,316	1,115
Total Benefits	\$455,150,879	\$99,258,280	5,422

Note: Revenues, earnings and employment for long term forecast period reflect activity and spending associated with 350,000 enplanements, 104,000 general aviation operations and 127,800 total operations.

Laughlin/Bullhead International Airport Projected Future Benefits

Constant 2000 Dollars



APPENDIX

LAUGHLIN/BULLHEAD INTERNATIONAL AIRPORT

ECONOMIC BENEFIT STUDY

SURVEY FORMS

LAUGHLIN/BULLHEAD INTERNATIONAL AIRPORT ECONOMIC BENEFIT STUDY

To All Airport Employers and Tenants:

An Economic Benefit Study for Laughlin/Bullhead International Airport will be included as part of the Master Plan now being prepared. Your cooperation is requested to compile meaningful economic data about the airport. This survey of employers will be handled with the strictest confidentiality by an independent consultant and only aggregate numbers will be used in publishing the report. If you have questions about the survey, please call Laughlin/Bullhead International Airport (520) 754-2134. Please return the survey form in the postage paid return envelope within ten days.

1. Please describe your main business activity (restaurant, aircraft maintenance, etc.)

Type of business: _____

2. How many employees do you have on the payroll?

Full Time

Part Time _____

3. Please estimate your 1999 payroll

\$ _____

4. Please estimate your 1999 operating costs (do not include payroll but do include cost of utilities, goods and services)

\$ _____

5. Please estimate 1999 total sales for your business

a. EITHER indicate amount if you can release it

\$

b. OR mark appropriate range on scale below

0 25 50 75 100 200 400 500 750 1 2 5
10 (\$ Thousands) (\$ Millions)

LAUGHLIN/BULLHEAD INTERNATIONAL AIRPORT BASED AIRCRAFT SURVEY

Thank you for your cooperation!

Dear Aircraft Owner:

As part of the master plan we are preparing an Economic Benefit Study for Laughlin/Bullhead International Airport. Your cooperation is needed in order to compile meaningful economic data about the airport. This survey of based aircraft owners will be handled with the strictest confidentiality and only aggregate numbers will be used in the report. If you have questions about the survey, please call Laughlin/Bullhead International Airport (520) 754-2134. Please return the survey form in the enclosed envelope within ten days.

1. How many aircraft do you have based at Laughlin/Bullhead International Airport? _____

2. Please estimate the market value of your aircraft. _____

3. Please estimate your annual outlays for fuel, maintenance, insurance, storage and other expenses associated with your aircraft. _____

4. Please estimate the annual number of (non- training) trips in your aircraft.

Business _____ Personal _____

5. Please estimate average ROUND TRIP MILEAGE for a typical (non-training) trip.

Business _____ Personal _____

6. What was the average number of persons on a typical trip?

LAUGHLIN/BULLHEAD INTERNATIONAL AIRPORT AIR VISITOR SURVEY

Business _____ Personal _____

Thank you for your cooperation!

Dear Aircraft Owner:

Your aircraft appears on our listing of visitors to Laughlin/Bullhead International Airport during the past year. We are asking your assistance in completion of this confidential questionnaire to measure the economic benefits from spending by GA visitors. The information will help us improve services for General Aviation travelers. If you have questions about the survey, please call Laughlin/Bullhead International Airport (520) 754-2134. Please return the survey form in the enclosed envelope within ten days.

1. What was the main purpose of your most recent visit to the Laughlin/Bullhead City area?

Fuel stop only _____ Business trip _____ Tourism/sightseeing _____
Personal/family visit _____

2. How many people were in your travel party? Circle : 1 2 3 4 or more (specify)

3. Where was your primary destination while in the area? Did not leave airport _____

Laughlin _____ Bullhead City _____ Other (specify)

4. Please describe your aircraft: Single engine piston _____ Multi-engine piston _____

Turboprop _____ Turbojet _____ Other type of aircraft (please describe)

5. How many nights did you stay in the Laughlin/Bullhead City area?

Circle: None (day trip) 1 2 3 4 or more (specify) _____

6. Please estimate spending by your ENTIRE TRAVEL PARTY on your visit to the area.

Do not include expenditures for aircraft fuel or FBO services. Please circle the figure.

Hotel/Lodging:

None \$50 75 100 125 150 200 300 400 500 600 700 800 or more (specify)

Restaurant Food and Drink:

None \$10 25 50 75 100 125 150 175 200 300 400 500 600 or more (specify)

Retail Spending for Goods and Services (include groceries but not entertainment)

None \$10 25 50 75 100 125 150 175 200 300 400 500 600 or more (specify)

Entertainment (do not including gaming but do include golf, shows, river rides, etc):

None \$10 25 50 75 100 125 150 175 200 300 400 500 600 or more (specify)

Ground Transportation Including Auto Rental:

None \$10 25 50 75 100 125 150 175 200 300 400 500 600 or more (specify)

7. Please estimate the TOTAL GAMING BUDGET for your PARTY for this trip.

Thank you for your cooperation!



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